Empire State ARCHITECT



NOVEMBER-DECEMBER

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AMONG THE CONSTITUENTS

THE SMALL HOUSE FIELD

U. S. ARMY POSTAL CONCENTRATION CENTER

VENTILATION AND ILLUMINATION OF SCHOOL BUILDINGS

THERMOPANE

WE CAN HAVE RADIO PROGRAMS



Empire State Architect

THE OFFICIAL PUBLICATION
THE NEW YORK STATE ASSOCIATION OF ARCHITECTS

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BROOKLYN CHAPTER, A. I. A. CELEBRATES GOLDEN JUBILEE

More than 200, including members and many guests in the public and civic life of Brooklyn, gathered in the ball room of Michel's on November 28th, to celebrate the Golden Jubilee of the Brooklyn Chapter of the American Institute of Architects.

The Chapter was founded in 1894 by a small group of architects to promote the interests of the then rapidly growing City of Brooklyn. They had previously been members of the Department of Architecture of the Brooklyn Institute of Arts and Sciences and The American Institute of Architects.

A highlight of the celebration was an exhibition of the works of many of the early members of the Chapter, some of whom are still living.

Henry V. Murphy, Vice-President of the Chapter was Chairman, and introduced Adolph Goldberg, President, who acted as Toastmaster. Mr. Goldberg reviewed the history of the Chapter and then introduced the guest speakers, who included the Honorable Irving V. A. Huie, Commissioner of the Department of Public Works of the City of New York; the Honorable Thomas G. Grace, State Director of the Federal Housing Administration; the Honorable Alfred A. Lama, member of Assembly of the State of New York; Henry J. Davenport, President of the Home Title Guaranty Company and head of the Downtown Brooklyn Association; Carroll Blake, Borough Superintendent of the Department of Housing and Buildings; Edgar I. Williams, Regional Director of the New York District of the American Institute of Architects; Matthew W. DelGaudio, State Association Director of the American Institute of Architects; Cecil C. Briggs, Director of the Department of Architecture of Pratt Institute, and Lorimer Rich, Architect and City Planner.

SILVER ANNIVERSARY OF ROCHESTER SOCIETY

The Rochester Society of Architects celebrated the twenty-fifth anniversary of its founding with a dinner meeting at the University Club on the evening of November fourteenth. The beginnings of the society can be traced to informal discussions of several men at the end of the first World War as to what the post-war period would hold for architects. Similar discussions are now frequent. These suggested the subject of the address of the evening "Prospects for a Permanent Peace," ably covered by Dr. Dexter Perkins, head of the history department of the University of Rochester and City Historian.

Others at the speakers table included Charles R. Ellis, president of the New York State Association of Architects, Leonard A. Waasdorp, president of the Central New York Chapter of the American Institute of Architects, Merton E. Granger, president of the Syracuse Society of Architects, William G. Kaelber, chairman of the Rochester Planning Board and Irving E. Horsey, president of the Rochester Society of Architects. There were 47 members and guests present and an evening of real fellowship will be remembered. As our toastmaster, H. H. Sullivan remarked, "We'll all be at the fiftieth celebration."

KEITH A. MARVIN, Chairman Public Information Committee Rochester Society of Architects

AMONG THE CONSTITUENTS

BROOKLYN CHAPTER

The Brooklyn Chapter has been quite active on the matter of the proposed amendments to the Zoning Resolution. While it favors further restriction in the matter of dwellings within residential areas, it does not fully approve the Moses plan for restricting the bulk of commercial buildings in retail and business districts. It has joined with other organizations in favoring Commissioner Huie's proposals and is now working in cooperation with other Chapters and Societies along these lines.

Its legislative committee, headed by Maxwell A. Cantor, is studying proposals to the amendments to the Multiple Dwelling Law.

QUEENS SOCIETY OF ARCHITECTS

A few happenings at the meetings of the Queens Society of Architects have helped to relieve the general routine.

At one of the meetings, we had a distinguished visitor, in the person of our past president, Navy Warrant Officer Simeon Heller who told us some of his experiences in the South Pacific and the North Atlantic. Heller entered the service as a Carpenter's Mate, and worked his way up to his present rank. The Navy has been reluctant in granting commissions to architects. It seems that, as usual, the young architects have to work their way up the hard way.

One of our directors, Guerino Salerni, has been serving as a First Lieutenant in the Corps of Engineers of the New York State Guard. The State Guard recognizes the ability of the architect, and welcomes them as members of the Corps of Engineers. We hope that more architects will take an active part in this important work.

Another topic of great interest has been the post-war public works program. We feel that the work should be spread out a little more, and that the local architects should be given more of a chance. The policy of giving most of the work to a few large offices should not be tolerated.

The Queens members hope that in the near future, the architect will be a recognized and responsible leader of his community, responsible for its development, and that Government Agencies will depend upon him for guidance in all public works.

ROCHESTER SOCIETY OF ARCHITECTS

Much interest is being centered on the problems involved in the rehabilitation of some of the down-town blighted areas in Rochester. The whole problem is proving very interesting, and the profession should give earnest and united thought as to the best means of supporting the idea. A good start has already been made in this direction by the City Planning Commission under the able leadership of Will Kaelber, who has some well deserved recognition and a picture in "Forum" this month.

I am told that Alan Dailey was in town the day before the "Silver Anniversary Banquet", but couldn't stay over. He is back in the States from the Aleutians now, I imagine he hopes for keeps.

Lt. Col. Williamson obtained leave for himself and came up to the dinner. I wish we could have heard him tell something of his experiences. I am told that Capt. Bob Stephany stopped in town for a visit a few days ago. He hopes to be overseas soon.

CY TUCKER, Secretary

CENTRAL NEW YORK CHAPTER, A.I.A.

The fall meeting of the Central New York Chapter of the American Institute of Architects took place October 14th at the Seneca. The afternoon discussions centered around public housing.

Speakers were Sergi Grimm, secretary and executive director of Syracuse Housing Authority, Syracuse; Ira S. Robbins, New York, State Deputy Housing Commissioner; and Warren W. Allen, Assistant Vice-President and Manager of the Mortgage and Real Estate Department, Lincoln-Alliance Bank & Trust Co., Rochester.

LONG ISLAND SOCIETY OF ARCHITECTS

The Long Island Society of Architects under the able leadership of Paul F. Jagow and with the cooperation and support of its members, is completing a successful 1944.

Our meetings are held on the first Thursday of the month at the Hempstead Elks Club House and in spite of the now prevalent travel difficulties, the attendance of our members at the meetings was fair and look even more promising in the future.

Many of our members who have held high and important positions with the Federal Government since the emergency, have now returned to their private practices and are reported busy planning post-war projects.

Election of officers for the year 1945 was held at the November meeting. Paul F. Jagow was reelected for his eighth successive term. The other officers elected are; Walter Spelman, Vice President and Treasurer; Otto A. Staudt, 2nd Vice President; Wellington H. Spaulding, 3rd Vice President; and George Foster, Secretary.

The most important matter of the year brought before the meetings for discussion was in reference to the unification plan with the American Institute of Architects. Before a final vote on this matter at the November meeting, each and every member of this society was given notice by registered mail and requested to voice his opinion if unable to attend and vote at the meeting. Many replys received, were in favor of affiliation with the American Institute of Architects and at a well-attended November meeting, the vote by the members present was in the affirmative.

Our final meeting of the year will precede a dinner on December 8th at the Freeport Elks Club. Installation of officers will take place and guest speakers have been invited for the occasion. The usual professional "Floor Show" entertainment which the society has always presented at these dinners, has, as in the past two years been suspended and our own "Can You Top This" competitors will furnish the entertainment and, believe it or not, the dial of the laugh meter stays at the top when the boys get going.

With the end of the year so close, this society extends the compliments of the season to the State Association and to all affiliated society members.

As has been our custom since the duration, paid-up membership cards will be mailed to our members in the service. We wish them well and hope to welcome them back with us very soon.

OTTO A. STAUDT

SHOULD THE ARCHITECT TAKE AN ACTIVE PART IN THE SMALL HOUSE FIELD?

BY THE SMALL HOUSE COMMITTEE OF THE

BUFFALO-WESTERN NEW YORK CHAPTER, A. I. A.

In Bulletin No. 26 of the American Institute of Architects, dated April 1944, this question was placed before all local chapters:

"Business related to the construction industry is receptive to architects taking an active part in the expected boom in small house construction after the war. Is the architect willing to take part, or is the small house industry to continue to feel that the architect is bored with it?"

It requires no reading between the lines to sense that the question was posed hopefully for an answer in the affirmative—"The architect is willing to take part in it; up to the hilt if necessary!"



View of the Small Home Exhibit Sponsored by the Buffalo Savings Bank.

For those who casually sit on the fence of doubt the importance of the small house field in the post war world and the architect's relation to it, a cross section of qualified expression and prophetic opinion may help to crystalize the fact that this is one issue the architect cannot afford to put off:

States the National Committee on Housing: "In days of peace we look for housing to be a mighty force to keep this nation pulled up on the bootstraps of prosperity."

A Section of the Buffalo Savings Bank Exhibit. States the National Housing Agency in October 1944: "12.6 million new non-farm homes by 1955. Replacement of 50% of the nation's 7 million substandard dwelling units within the post war decade."

Fortune magazine survey findings: "Consumer demand for 4,700,000 houses to be paid for out of war time savings. More dollars may be spent for homes than for any other product."

Estimate by the U. S. Department of Commerce: "By 1945 consumers will have received approximately 100 billions of dollars more than they have been able to spend since the start of the war."

The Producers Council: "An average post war building year that might double yearly production in the 1938-40 period. Residential construction alone . . . would amount to 972,000 units per year."

John B. Blandford, National Housing Administrator: "Housing is predominantly a job for private enterprise. The acceptance of this principle is a starting point for progress. Solving the housing problem means providing more American families with better housing at lower cost. . . . The challenge of post war housing applies to all forces on the housing front. . . . The failure or refusal of any of these broad forces to face up to the future will make it just that much more difficult to transform big plans into big accomplishments."

American Society of Civil Engineers Committee on Postwar Construction — quoted in National Bulletin No. 30, A. I. A.: 'Residential building is an important part of the Society's program of postwar construction. We consider that 5 billion dollars of our 15 billion dollars objective should be furnished by this type of work.

"Ways and means for stimulating plans for home building should be given serious consideration by all Local Section Committees on Postwar Construction.



"Architects have direct interest in construction of this kind, and it is also a direct concern of city planners, city engineers and heads of public works."

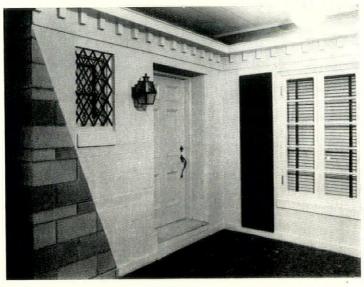
Judging from these facts and intoxicating prophecies, it would not be stretching a point to say that in the field of construction, postwar housing looms as a great factor in the creation of a healthy peace time economy. And the architect with his training and education must strive to assume an important place in its development.

Many of us are familiar with the problems and vices of the pre-war small house field—unwise land exploitation, inroads made by the jerry builder, preparation of plans by non-architects, difficulties of operating profitably on a small quantity basis, unethical practices in the application of fees and services, and the lack of unified action towards protecting the average prospective homeowner against unsound construction practices—all serving to discourage participation in this field of work.

If we were to admit defeat now, on the basis of past problems, we could never hope to face the problems and prospects of the future, such as housing investment and finance, the government and the housing market, land problems and housing distribution, prefabrication and the marketing of houses, public education and relations, professional schedules of services and fees.

If a survey were to be conducted in every growing community of the nation it would almost certainly be found that in most instances the inability of the profession to cope with these problems could be traced to lack of organization and to general apathy towards them. One fact stands out clearly: Unified interest in the form of active organization is the only method by which these problems can be attacked successfully.

It is noteworthy that today the architectural profession is being identified closely with the vast postwar housing era.



Typical Section of Concrete Masonry Home at Buffalo Savings Bank Exhibit.

National lay magazines have pointed the finger at the architect as the logical man to plan and design the homes of tomorrow. Banking and financial institutions, anticipating the potential postwar market are now trying to create and

stimulate interest in homebuilding by architectural exhibits. In Buffalo, New York, the Buffalo Savings Bank has recently launched a sizable public exhibit of small houses. It stands ready at all times to receive work from local architects interested in the project.

Opened on September 25, this exhibit, comprising 2,500 sq. ft. of floor area, is intended to be permanent, or at least to operate for as long a period as it will seem to be of public educational value. Views of the exhibit are shown. Public lecture courses on home planning are being conducted in a number of cities; with emphasis laid on the wisdom of architectural guidance.

It would seem that the profession can ill afford to dodge this charge of confidence that it will bring to fruition the hopes and wishes of prospective home owners.



Gallery of Small Homes at the Exhibit.

The Buffalo-Western New York Chapter of the A. I. A. has recognized these facts and has resolved itself to the role it must play in postwar small house construction. It has already appointed a Small House Committee to appraise the local situation and recommend a program of action which will start this group off on the right foot in the right direction.

Broadly its objectives are:

- To prevent dispossession of the profession in the small house field by assuming its proper "place in the sun."
- 2. To create a correct public concept of the architect as a trained, efficient planner and designer whose services are essential. (The vast amount of work lying ahead may be considered an opportunity for public education in the relation of the architect to community welfare and advancement.)
- To eliminate the vices of the small house field and to approach its problems with an end to create better housing for the community at lower cost.
- 4. To make strong efforts to encourage and promote participation by the profession on a national scale.
- To justify the confidence that has been placed in us by those who know the value and importance of architectural service.



See our
Celocrete
Concrete
Masonry
Home Exhibit

AT
Buffalo Savings Bank

LEFT: Cavity Wall Construction

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RIGHT: Single Wall Furred.





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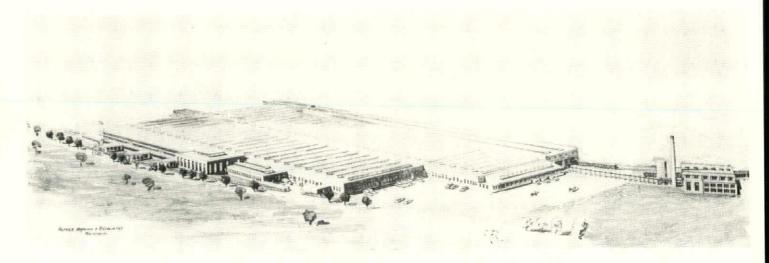
LEFT: Cantilever Roof

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U. S. ARMY POSTAL CONCENTRATION CENTER

LONG ISLAND CITY, NEW YORK



Built Under Direction of U. S. District Engineer Office of New York.

Alfred Hopkins & Associates, Architects

John A. Johnson Contracting Corp., General Contractor

Speed has not often been considered an important element of architectural design, but during the war that aspect has been predominant. The trick, for a conscientious architectural firm, has been to produce **good** work—work of which it would not be ashamed in any period—under the impelling time requirements of war construction. In the short time allowed for the design phase, it has been necessary to correlate functions, availability of materials, ease and quickness of construction methods. To integrate these considerations rapidly into a satisfactory architectural design has not always been easy.

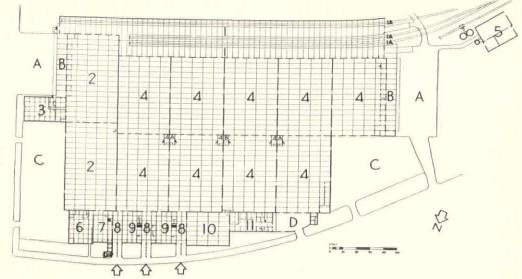
In the case of the recently completed Postal Concentration Center for the U. S. Army on the site of the old Madison Square Garden Bowl in Long Island City, the architects-engineers had a few days more than three weeks from the date of their first preliminary conference in which to complete drawings and specifications for a two and a half million dollar project which was required to be constructed within three months. This meant that the partitude had to be found almost literally overnight — a partitude satisfied the architects, the engineers, the U. S. Engineers, and the Post Office authorities, and made rapid construction possible.

The problem was to provide a building containing about 14½ acres of floor space divided into work areas of approximately 40,000 square feet each. Packaged mail would be delivered by train and by truck, routed through civilian sorting stations to Army directing stations, and thence on to trains and trucks again for the first lap of the trip to its final destination. Adequate rest rooms, locker rooms and toilets were, of course, required. The administrative offices, and employee entrances, were considerations. A cafeteria dining room to seat 800 and kitchen facilities capable of preparing food for 8000 in a 24-hour period were important. Overnight, it was necessary to decide the plan, the materials, the construction methods—Beaux Arts never taught the answers to that sort of design problem!

Two primary decisions made the solution possible. One was to consider the mail, which is the reason for the building, as a material flowing through an industrial establishment, undergoing certain processing stages on its way. The second was the determination, for several reasons, to design on a modular basis, using an over-sized module. Instead of the usual four inches, or four feet, the dimension adopted for coordination was sixteen feet. On a sixteen foot grid, then, the "industrial plant" was laid out. Thus design was simplified (why haggle over inches, or even feet, in a project of this scope—when a partition was drawn, it was drawn on a grid line). And at the same time construction was simplified by making site prefabrication possible.

The plan that was developed from these considerations to the satisfaction of everyone involved-disposes the work areas between a covered train shed along the south side of the building and a unit along the north side of the plot which includes administrative offices, the main toilets and "swing" rooms (locker and rest rooms), infirmary, and a cafeteria and kitchen. The "raw" material - unprocessed mail - arrives at the southwest end of the structure, either on railroad cars or trucks. From the receiving platforms, the mail is carried by battery motored "trucks" to the civilian work areas - 30,000 work units grouped into nine "work areas" separated from one another by fire walls. When the processing is completed in this section of the building, the mail is conveyed to the Army Post Office section, which consists of two fire walled areas totalling 100,000 square feet. From this point it is moved to platforms at the southeast corner of the building, where either trucks or railroad cars pick it up.

The design is a simple expression of the materials and methods of construction. The exterior walls are of high pressure steam cured concrete block, used in a cavity wall system; eight inches of cinder concrete blocks on the inside, a two inch air space, and four inches of buff integrally colored sand cement block for the exterior shell. The



Floor Plan of the U. S. Army Postal Concentration Center.

material is attractive in appearance, easy to erect by available masons, and capable of immediate delivery in the great quantities required. Some 397,000 pre-cast units were used.

To span the 160-foot wide work areas, standardized wood trusses were designed for site pre-fabrication, keeping in mind available timber sizes. The trusses are a continuous parallel chord split ring design, spanning 160 feet, supported by the end walls and four intermediate laminated wood posts.

The roof is flat, interrupted by monitors. Wood joists are carried by the trusses and, in turn, support a construction of gypsum sheathing, rigid insulation, and built-up roofing.



Exterior View of the Postal Center Under Construction.



Interior View.

Integrated with the truss design are the long continuous monitors over the work areas. Not only do they provide light and natural ventilation in the vast interior areas of the structure: they are used also as sources of air for a mechanical ventilating system. At each end of each monitor a heating and ventilating unit is installed which pulls in fresh air under thermostatic control and distributes it in a duct system on the monitor ceiling through directional flow grilles. Air is also exhausted through the monitors.

Largely because of the heat that would have been generated by a multitude of incandescent fixtures, fluorescent lighting was adopted. Better light was obtained, without the heat problem, at half the current consumption of incandescent units.

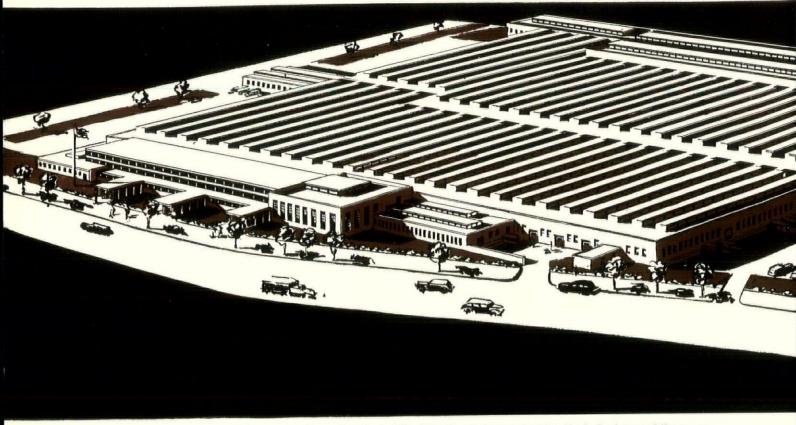
Since the concrete block walls were left unfinished on the inside as well as the outside, no problems of veneer finishes arose. Where a sanitary surface was required — in toilets and kitchens — a ceramic glazed structural unit was substituted for the interior concrete block. Floors in the work areas are a resilient type of industrial flooring floated on a concrete slab on earth.

Housed in a separate structure on the railroad spur, the boiler plant contains four 2200 horsepower boilers, fueled by coal which is stored in two silo type coal pockets. There is a narrow gauge track ash-carting system.

Undoubtedly, there is value to future architecture in the absolute necessity for integration of program, structure, materials, and design imposed by such a problem. With the element of tremendous speed removed, postwar building can profit from these conceptions. An important factor in the successful completion of the project was the full understanding on the part of the contractor—the John A. Johnson Company—of the simplicity of the design and the possibilities for site pre-fabrication and production line construction methods. These considerations again offer chances for economy and simplicity in postwar construction.

The Postal Concentration Center was built under the direction of the U. S. District Engineer Office of New York, of which Colonel Edgar W. Garbish is district engineer; Lt. Col. Charles K. Panish, Chief, Engineering Division; Lt. Col. David F. Fisher, Chief of Operations; Major C. A. Ripperger, in charge of construction; Walter H. Weiskopf, Head Engineer; Paul A. Kelly, Principal Engineer. The Architects were Alfred Hopkins & Associates and the General Contractor was the John A. Johnson Contracting Corporation.

'A MIRACLE OF



U.S. Postal Concentration Center in Long Island City, New York, Alfred Hopkins & Associates, New York, Architects & Engineers

This new Postal Concentration Center in New York City is described as "A Miracle of Construction" by Col. Edgar W. Garbisch, N. Y. District Engineer of N.Y. District Office, U.S. Army Engineers.

SIZE OF STRUCTURE

The building is 1,020 feet in length by a width of 700 feet and contains 635,000 square feet of floor space. The actual structure is six city blocks long and covers 141/2 acres. Four sections of railroad

track, totaling 2,700 lineal ft., have been laid within the building.

SPEED OF CONSTRUCTION

Major General Thomas S. Robins, in a letter addressed to us stated "Your record, in speed of construction, high quality of workmanship, efficiency of management, safety, avoidance of work stoppages and mastery of difficulties, despite all handicaps induced by an almost impossible construction schedule, by stringent limitations in operating space and by scarcity of materials, is indeed impressive."

JOHN A. JOHNSON

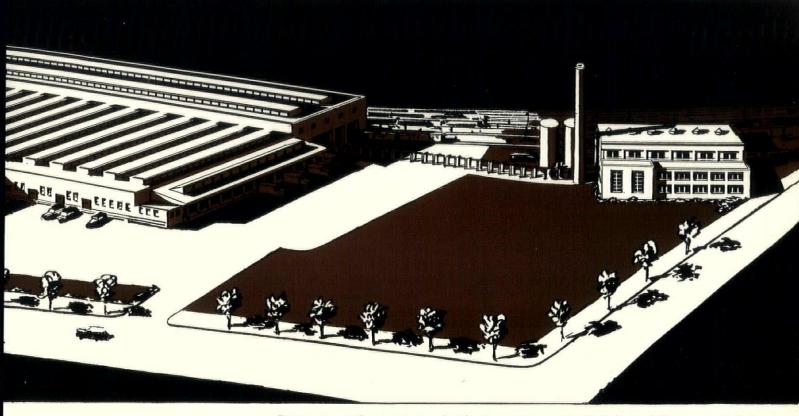
GENERAL CONTRACTORS

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THE VENTILATION AND ILLUMINATION OF SCHOOL BUILDINGS

by GEORGE BAIN CUMMINGS

Studies that will affect the architectural design of school buildings in New York State are in progress. As, in a sense, I am acting as trustee of the interests of architects in these studies, it seems both fair and fitting that I make

an informal interim report.

At the direction of the Commissioner of Education, two special committees have been appointed by Doctor Essex, Director of the School Buildings and Grounds Division of the State Department of Education. The first of these is asked to make recommendations upon which the Division may formulate regulations concerning the ventilation of school buildings. The second is asked similarly to make recommendations concerning the illumination of school

buildings.

The first committee was convened at the Board of Education building in Brooklyn on November 9th. The members are C. E. Cox, Chief of Bureau of Water Supply, State Department of Public Health; N. L. Engelhardt, Associate Superintendent of Schools, New York City; James E. Perkins, M.D., Director, Division of Communicable Diseases, State Department of Health; Paul W. Seagers, Principal, Cato-Meridian Central School; Adrian B. Waterbury, Heating and Ventilating Engineer, New York City; and myself. Attending the meeting as Consultant to the Department was Doctor C. E. A. Winslow, Director, John B. Pierce Laboratory of Hygiene, Yale University; acting as secretary and charged with developing the report of the Committee was Assistant Professor Philip E. Nelbach, of the same Laboratory. Doctor Essex and Doctor Wilson of the Division of School Buildings and Grounds, represented the Department; and Ray L, Hamon, Senior School Building Specialist, U. S. Office of Education, attended at their invitation. Also present, at Doctor Engelhardt's invitation, was Morris Liebeskind of the Bureau of Plant Operation and Maintenance of the New York City Board of Education. Doctor J. Cayce Morrison, Assistant Commissioner for Research, State Department of Education, ably presided.

The present statutory requirements for heating and ven-

tilation are as follows:

'The Commissioner of Education shall not approve the plans for the erection of any school building or addition thereto or remodeling thereof unless the same shall provide facilities for heating and ventilation adequate to maintain healthful and comfortable conditions in the classrooms and study halls." (As amended L. 1940, c. 427, eff. April 13, 1940.)

The present tentative Division regulation on ventilation requires in classrooms 15 cubic feet of fresh air, per pupil, per minute, which is to be contrasted with the former requirement of 30 cubic feet. The problem before the committee is, therefore, to recommend what facilities for heating and ventilation should be provided adequately to maintain healthful and comfortable conditions in the classrooms, etc. (During the conference, it was agreed that the committee's designation should be expanded to "Committee on School Building Heating and Ventilation".)

Before the conference, each member had received a copy of "A Study to Define the New York State Statutes, Written and Implied, on Schoolhouse Ventilation," by Paul Seagers, and "Notes upon the Ventilation of School Buildings," by C. E. Cox, of the committee. The gist of these papers was that ventilation and heating, adequate to main-

tain healthful and comfortable conditions in a classroom must: insure relative freedom from injurious chemicals and dust, relative freedom from air-borne infections, proper motion of air, proper temperature, proper humidity, relative freedom from draft sensation, and relative freedom from body odors. Doctor Winslow believes (and invites inspection of Connecticut schools in confirmation) that such insurance may be provided by the use of window sash openable above the sill, guarded by draft deflectors, with gravity exhaust ducts on the opposite side of the room, and direct radiation installed under the windows. Mr. Waterbury, among others, questions the all-time adequacy of such an installation, and points out the difficulty of measuring its adequacy. All of us acknowledge that the cost of heating and ventilating installations would be lessened if the Winslow thesis were adopted. Doctor Engelhardt and Mr. Liebeskind were pessimistic, having examples in existing New York City schools of practically every known kind of ventilating system, none of which, according to them, work well. They seem to be searching for some "less bad" system. Through the present project of planning 75 new schools for the City's postwar building program, Doctor Engelhardt is on the receiving end for all kinds of proposals, and some 35 or more of the City's ablest architects and consulting engineers are giving study to the problem. The State Department's authority does not extend to cities of the first or second classes. But whatever of constructive usefulness emerges from the studies of the special committee will be welcomed by Doctor Engelhardt, and surely the conclusions that he may arrive at in conducting the New York City program will be carefully considered by the Committee.

Most of the study and research indicated for the Committee will be done by the health authorities and by the mechanical engineers. We architects will use their findings, and then, after we have designed and installed the "perfect" system, hope to Heaven that it will not be turned over to some incompetent janitor to abuse. It has been suggested that the proposed regulations of the Division

contain the following clause:

"Before final approval of the building and final payment is made to the contractor it will be the duty of the architect to make sure that the contractor has supplied the custodians or building superintendent (or person appointed by the Board of Education) with the necessary information and charts as well as to school him in the theory of ventilation and the operation of the equipment. The contractor shall supervise the operation by the custodian (or person appointed by the Board of Education) for a period of not less than two weeks; and the architect shall ascertain that the equipment is functioning as it was designed to function. During the first year of operation the contractor, upon the request of the commissioner, shall furnish tests to prove that this equipment provides the conditions set up in these regulations.'

I think we architects will be glad to assume this duty.

The Committee on School Building Illumination met in the rooms of the Illuminating Engineering Society in New York on November 10th. The members are Doctor Engelhardt; LeGrand H. Hardy, M.D., Director, Knapp Memorial Laboratory of the Institute of Ophthalmology, Columbia University Medical Center; Mrs. Winifred Hathaway, Associate Director, National Society for the Prevention of Blindness, New York City; William F. Little, Illuminating Engineer, Electrical Testing Laboratories, Inc., New York City; Paul Seagers; and myself. Doctor Essex, Doctor Wilson and Mr. Hamon were in attendance, as was William Viet, Doctor Engelhardt's assistant in this particular field. Edmund H. Crane, Associate Education Supervisor (Research), of the State Department of Education, acted as secretary, and Doctor Morrison presided. During the course of the conference, Messrs. Hinkley and Crouch of the staff of the Illuminating Engineering Society were invited to tell about experiments in progress concerning psychological reaction to illumination.

Not only was artificial illumination under examination by the committee, but conditions of natural lighting as well.

The existing regulations in this matter are as follows:

"Provision shall be made for the lighting of classrooms and study rooms from one side only, that is, from the left of the pupil. The window area must equal at least one-fifth of the floor area, unless the placement of windows is so satisfactorily planned for the best results as to justify the approval of a lower ratio, in which event a minimum of one-sixth may be accepted. Windows shall be grouped as closely together as possible, and where practicable not over eight inches apart, and shall extend as near as may be to the ceiling. No window shall be placed within six feet of the front of the room unless it be shown to be essential. All rooms used as class or study rooms for pupils shall be so oriented that so far as possible they will be thoroughly flushed out with sunlight during some portion of the day.'

The Committee was asked to examine, in addition to these regulations, shading, glare, the use of glass blocks, vita-glass, etc., fluorescent lighting, photo-electric cells, etc. We were asked whether artificial lighting should be direct, indirect, semi-direct, or semi-indirect; how lighting effectiveness can be maintained; and, first and fundamentally, how much illumination should be provided in the various types of rooms commonly found in a school building. This is the \$64.00 question. Mr. Viet told us that the new buildings for New York City were being designed on the basis of a minimum of 25 foot candles at the working level in classrooms, but couldn't defend that scientifically.

We agreed, more or less, that the scientific determination of the fundamental question would be developed:

- 1. by a study of the function and purpose of each room, and the activities carried on in it;
- by a study of the physiological and psychological reactions to light on the part of the children and others using the room;
- 3. by mechanical ingenuity in arranging the optimum conditions to serve the findings of these studies.

It seemed to me that the educators must pursue the first study and the health people the second; and that the third step can then be worked out by the architects and their collaborating engineers.

Incidentally, Harold D. Hynds, Superintendent, Bureau of Plant Operation and Maintenance, of the New York City Board of Education, has prepared a splendid study of colors for painting school rooms, with reference to light reflection, etc., which is a fine contribution to the general subject.

The respective secretaries are preparing material for the next meetings of these two committees. Final reports may be expected sometime in 1945, to be followed by revised departmental regulations.



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THERMOPANE A FACTORY-FABRICATED TRANSPARENT WINDOWPANE FOR TO-MORROW'S BUILDINGS

R ECENTLY, a scientist in shirtsleeves sat comfortably within a few feet of a warplane altimeter undergoing a test in temperatures ranging down to 85 degrees below zero.

He watched closely the actions of an instrument operating in a cold so bitter it would freeze the marrow in his

bones solid within seconds.

No human body, unless protected by the most extravagantly insulated, electrically-heated clothing, could stand such cold—yet this scientist was close enough to watch every reaction of an instrument going through its paces in an atmosphere akin to that found in the thin spaces of the outer world.

How this was accomplished is the story of a window ordinary in appearance yet so efficient in performance as to be regarded as one of the most practical improvements in window-glazing in perhaps 500 years. Not only was the watching scientist protected from the cold, but his transparent viewing panel, unlike any ordinary window, did not become fogged or frosted despite the extreme opposites in temperature between the outside room and the refrigerated test chamber. This was a window that reached its maturity of development in World War II to give vital aid to the armed forces, and now gives rich promise of revolutionary postwar

improvements in building design.

The idea was born on a cold winter morning in 1930. Charles Haven, a Milwaukee refrigeration engineer, noted the frost covering the car windows. The windows of the shops and homes he passed were covered with the same annoying and vision-obscuring fog. He knew this frost was the result of variances in temperature—warm interiors and icy cold outside. Haven had been working on the idea of utilizing the principle of double glass insulation for refrigerating cabinets. Why could not a permanent double glazed window pane be designed for homes, office buildings and stores? He knew that it would mean increased savings in fuel, resulting in improved living and working conditions by providing more comfortable, more healthful interior temperatures and better vision.

DEVELOPED AFTER YEARS OF RESEARCH

Months of experiments followed. Haven evolved a unit consisting of two panes of glass separated by a layer of dehydrated air and sealed around the edges with a rubber gasket. By utilizing dehydrated air there was, of course, no moisture to condense, or "fog up" the window pane.

Here was the beginning of a new type of window pane. It offered great possibilities, Haven knew, because for the first time it would make it possible to conveniently utilize the storm sash principle of double glass insulation above the first floor. Installed in a sigle sash, it would be permanent and, from a maintenance standpoint, as easy to clean as a single pane.

But the real solution had not been found. It was realized that such a unit, intended for permanent installation, must have stability against time and weather in order to retain the dehydrated air between the panes of glass. And so began the

long search for an effective seal.

Libbey-Owens-Ford Glass Company, foreseeing the ultimate value of the product, known as Thermopane, to the building world, launched an intensive research program and endowed a fellowship at the Mellon Institute. The research men finally found the answer—a metal-to-glass bond. Never before had it been possible to weld glass and metal in this manner.

Innumerable tests of the resistance of the metal-to-glass seal to shear have disclosed that it will stand a pull of approximately 1200 pounds per square inch — more than enough to withstand pressure that might be encountered by the settling of a structure in which Thermopane is installed.

THERMOPANE TESTED AT LITTLE AMERICA

In addition to the gruelling laboratory tests, exhaustive field tests of actual installations were conducted over a period of years. One of the most dramatic was that made by Rear Admiral Richard Byrd in Little America. A radiogram report from his expedition said of Thermopane:

"Superior to any window ever installed in Antarctica and permit almost perfect visibility at temperatures down to 75 degrees below zero, with a room temperature of 75 degrees

inside, or a temperature gradient of 150 degrees."

In the midst of these field tests and pilot operations, Thermopane was called to war and today, installed in many kinds of war equipment, it is serving efficiently.

It is being widely used in army signal corps trucks to protect delicate weather instruments from temperature changes in the field.

Thermopane is serving as the windows of traffic control towers at army air fields in Alaska and in the tropics.

A window covered with frost in a control tower could easily mean disaster—the control operator must be able to see at all times to guide pilots to their landing.

ALLIED TANKS GLAZED WITH THERMOPANE

Observation windows in Allied tanks are being made of Thermopane and the enclosed bridges of some battleships are equipped with it.

These war-time uses of Thermopane are signficant of some of the post-war possibilities it will provide for improvements

and changes in building design and construction.

A brief review of the history of architecture reveals that Thermopane incorporates the first basic improvement in the

windowpane construction in perhaps 500 years.

Our cave dwelling ancestors knew nothing of the health and comfort to be gained from sunlight and air in their homes. They had no windows. Even when they progressed, sometime during the paleolithic period, into round huts covered with skins or hides, they made no attempt to open their homes to the outside by use of window openings.

In India, more than 3000 years before Christ, the first window openings made their appearance in homes. These were tiny openings that accomplished little except to allow the entrance of insects. But the home builder of that day finally had begun to realize the need for more air and sun-

light.

Nearly a thousand years later, the Egyptians were using more window openings than their East Indian brothers, but still they had no coverings and with the air and light came an increased horde of insects.

Glass, of course, had been discovered — but in the year 2000 B.C. it had not reached a point of development where

it could be adapted to use in windows.

GLASS WINDOWS USED 1850 YEARS AGO

Among the first to attempt the use of glass for windows

were the Romans in about 100 A.D.

Only the extremely wealthy Roman could afford glass for windows. Costing a small fortune, the glass window of 1800 years ago was nothing but a thick slab of practically opaque material. It did offer protection against rain and helped to keep the cold and the insects out. It let in a little light.

As time passed, glass makers learned to make thinner panes which allowed increased vision and the entrance of more light. This glass was used in medieval times by the landowners who installed it in their great castles. So valuable were these windows that often when the lord of a castle went on a protracted trip he took his window panes with him to prevent theft.

During the 14th century, the wealthier class of French were using larger and larger window areas as glass makers continued to improve their product. In this era came the development of windows divided by partitions, or mullions. It was in this period, too, that the movable sash made its appearance.

Then, as windows became more common in Europe and those other than the wealthy were able to afford them, their development was suddenly slowed by tax burdens.

FEWER WINDOWS DETRIMENTAL TO HEALTH

In Thirteenth Century France, a window levy was imposed but removed years later when it was discovered that, through lack of proper light and ventilation, ill health was becoming a major problem.

Window taxes in Colonial America again slowed up developments, even to influencing architectural trends. Today there still can be found old homes in New England where window openings were bricked up to avoid taxes.

Removal of the window tax burden, combined with the ability to produce window glass in larger and larger sizes and development of improved heating methods finally brought about new interest in the possibilities of windows for improving the home.

Today, in "open plan" architecture larger window areas are contributing to better all-around living.

Daylight engineering, or the proper orientation of large window areas, is recognized as important to health and better working conditions. The permanent double-window units provide good insulation and improved natural daylight illumination.

THERMOPANE FITS DESIGN TREND

Architectural trends toward larger window areas and entire "window walls" for post-war homes and buildings will be accelerated by the use of Thermopane which permits year-round usage of the double-glass of storm window principle, so that fuel conservation is achieved in winter and air conditioning is made more efficient in summer.

Dr. George B. Watkins, director of research for Libbey-Owens-Ford Glass Company, at a recent meeting in New York's Architectural League, described Thermopane as "an air conditioned glass sandwich." Dr. Watkins said its insulating properties are such that it will reduce heat losses when installed in an average home by as much as 50 per cent, and will prevent frosting of windows in cold weather.

"Large wall areas of the postwar home can be designed to utilize Thermopane," he said. He predicted that the unit, in addition to encouraging "daylight engineering" in homes, will be widely used in office buildings, hospitals and schools.

Dr. Watkins demonstrated the insulating properties of the "glass sandwich" pane in a cold test cabinet with two windows, one of which was glazed with a single pane of glass, the other with a light of Thermopane. Thermocouples were attached to inside and outside surfaces of both windows and the temperature inside the cabinet reduced to near zero.

Readings on the Thermopane window indicated a 20degree difference in temperature between the warm and cold side of the glass but only one degree difference on the single pane.

"This means," Dr. Watkins explained, "that considerably more heat from the warm room is flowing into the cabinet through the single window pane. Heat flows from a warm

Continued on Page 18

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WE CAN HAVE RADIO PROGRAMS

by Giles Y. van der Bogert ALBANY CHAPTER, A. I. A.

BACK in '42, shortly after I had been elected to the American Institute of Architects, I was appointed "Chairman of the Committee on the Preservation of Architectural Monuments of the Albany Chapter of the A.I.A." I was very impressed and quite proud of receiving such an austere title until I asked something about the functions of the Committee. Apparently, since the days of the C.W.A. project, when the Committee rendered a valuable service, nothing had been done. And no one knew what I was supposed to do. I was the "Pooh-bah" of the Albany Chapter. Well, you can always make a job for yourself if you try, so I started out blindly and like my counterpart got myself completely embroiled.

I had long felt that the radio offered great potentialities to the profession for education purposes. I realized that the Chapter could bear no expense in promoting a program. In fact, the experience of the National organization had been that even with generous contributions by the members, the cost of maintaining a program was prohibitive.

Just by chance I happened to discuss with Dixon Ryan Fox, President of Union College, my idea of broadcasting architectural history over the air. Being deeply interested in American History and more particularly in the history of New York State, Dr. Fox was extremely interested. Under the franchise of W.G.Y., that station must devote a certain amount of time to educational programs. Considerable of this time had been given to Union College. Dr. Fox generously offered to devote some of their time to the experiment. The format was arranged, presented to the program manager of W.G.Y. and under the title "Walls Tell a Story" the program went on the air.

The original format, based upon fifteen minutes time, was designed so that an historian would discuss the general historical background and an architect the architecture of a period. In this way it was felt that the monotony of a single voice would be overcome. In general this format was maintained for the life of the series, although at times the entire time was devoted to a single speaker. This was due, in some cases, to having an unusually good guest speaker, in other cases to inability of obtaining two qualified speakers.

It was agreed with the station that the series be given a ten weeks trial to ascertain the public reaction to such an experiment. It was gratifying at the end of the ten weeks to have W.G.Y. request that the program be continued. Of course, it is difficult to judge the listening public of such a broadcast, except through letters received commenting upon the subject matter, requests for scripts, etc., but enough were received to justify its continuance for almost two years. Then "Walls Tell a Story" became a war casualty. Our time was given over to the Office of War Information to promote bond sales and the like, but with the dawn of peace we sincerely hope that Walls will again Tell Their Story.

The experiment has been criticized by some of the profession because of its historical element, it being felt that the architect and his philosophies should be promoted. But this is beside the point. The format does not matter. What does matter is that each week the word "Architect" was broadcast for hundreds to hear, and what is more pertinent, at no cost, except in time, to any association or individual. What better way can we begin on the much harped-on "Public Relations"? There are throughout the

State many radio stations which could be contacted and with whom similar programs could be arranged. It is even conceivable that series of broadcasts could be arranged by a central office to be distributed throughout the State. This, of course, is predicated upon a strong association and a willingness of all to work. I know from experience that it is a big job and a hard job, with a date to be met each week, with programs to be arranged, with sudden emergencies to be met.

But it is an exciting job, as full of creation and imagination as architecture itself. If one out of a hundred listeners profits and learns of architecture and architects, it is well worth the effort.

Yes, we can have radio programs if we have the will. I know.

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HOW TO GET YOUR MONEY'S WORTH OUT OF A TRADE ASSOCIATION

We at Printers' Ink have a minor quarrel with the Promotion Committee of The Associated Business Papers.

It has designated September as A.B.P. month. Our quarrel is that, so far as we are concerned, every month is A.B.P. month. However, since it is September, and since the Committee insists that it is A.B.P. month, I am going to take the excuse to talk a little about trade associations.

For a number of years, both as a member of Printers' Ink's editorial staff and as a publisher, I have watched the operation of trade associations. During that period I have come to one exceedingly bromidic conclusion. It is that a member benefits from an association in a pretty direct proportion to the amount of time he exposes himself to association activities.

Too many members confine their exposure to the annual convention. Now I have nothing against annual conventions, though when I was an editorial man and attended a couple of dozen a year I frequently reached the stage when I wondered why anybody anywhere ever went to a convention.

The annual or semi-annual gathering of the executives in any industry can be very helpful. That is probably the reason why during these war years, when conditions are so uncertain, convention attendance has increased.

It has always seemed to me, however, that the member who confines his activities to the annual convention is cheating himself on his investment in an association membership.

We at Printers' Ink have found this true of our membership in The Associated Business Papers, for example. To be sure, the members of our staff who are fortunate enough to attend the conventions come back to the office loaded down with notes. Often the ideas and suggestions we pick up at a convention affect our publishing policies for the following year.

In the long run, however, the annual convention is only a single A.B.P. activity. All during the year a dozen or more committees are working quietly, but vigorously, for the betterment of the business-paper publishing industry. Often these committee members don't get credit for the progress for which their work is responsible. To me the most significant fact about this work is that it does not benefit the members of A.B.P. alone. Much of it is of great value to all sound, reputable business-paper publishers.

I think that the A.B.P. member who is not intimately acquainted with the work of the excellent headquarters' staff of A.B.P. misses a lot, too. Perhaps we see the staff more than a lot of publishers do because they happen to be neighbors of ours on the same floor in the same building.

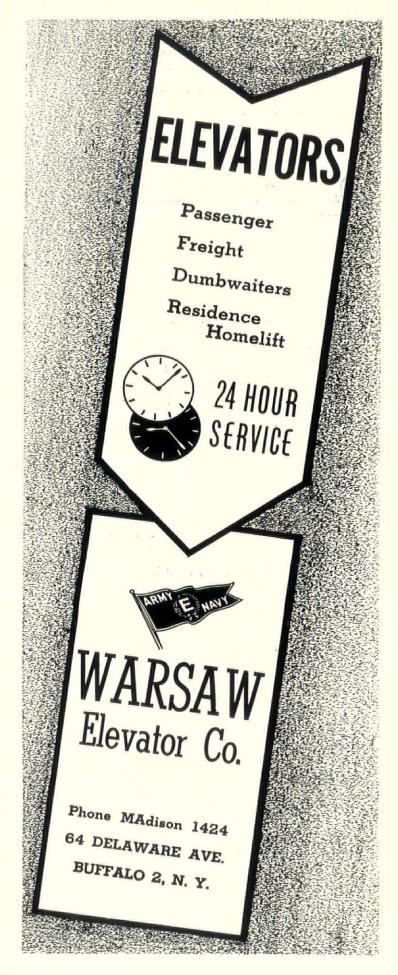
On several occasions, particularly during the last two years, the staff has been very helpful to us in solving some knotty problems. They know many facts about the whole publishing field that we as an individual organization cannot possibly know.

By this time you will see that I am an A.B.P. enthusiast. But I think any trade association member who uses his association's services frequently and wisely will be just as enthusiastic about his own group.

C. B. LARRABEE, Publisher, Printers' Ink

PUBLISHER'S NOTE

This number was held for a report on the Annual Directors' Meeting held in New York City December 9, 1944. As the report was not available up to January 10, 1945, it was decided to run it in the January February 1945 issue.



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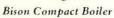
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LETTER

WAR DEPARTMENT UNITED STATES ENGINEER OFFICE NEW YORK DISTRICT ROOM 601, 120 WALL STREET NEW YORK, N. Y.

29 September 1944.

Mr. Edwin Johnson, Vice President, John A. Johnson Contracting Corporation, 268-270 43rd Street. Prooklyn 52, N.Y.

Dear Mr. Johnson:

Inclosed herewith are three copies of the address I delivered at the dedication of the Army Post Office in Long Island City.

I fully indorse the comments of Major General Thomas M. Robins, Deputy Chief of Engineers, in his letter dated 20 September 1944 to your brother, John, and I want to express to you and your associates my personal appreciation of your company's outstanding contribution to the record that was achieved in completing this urgently needed project well within an almost impossible construction

With best wishes, I am,

Sincerely.

E. W. GARBISCH. Colonel, Corps of Engineers, District Engineer.

1 Incl: Address in trip.

THERMOPANE

(continued)

to a cold body, unless there is an insulating barrier to resist its flow. Thermopane is such an insulating barrier, consequently the flow of heat into the cabinet through it is much less than that noted in the single windowpane.

"In homes, this means that the warmer surface would materially reduce that chilly feeling experienced when sitting close to a single-pane window in winter. More healthful humidities, too, can be maintained in winter without obscuring vision, caused by moisture condensation and frosting of the windows," he said.

Dr. Watkins exhibited several panels of Thermopane made of "special purposes glasses" for use in solving specific problems. One exhibit, a unit of Thermopane measuring eight feet by five feet, was described by Dr. Watkins as the "biggest insulated windowpane in captivity.'

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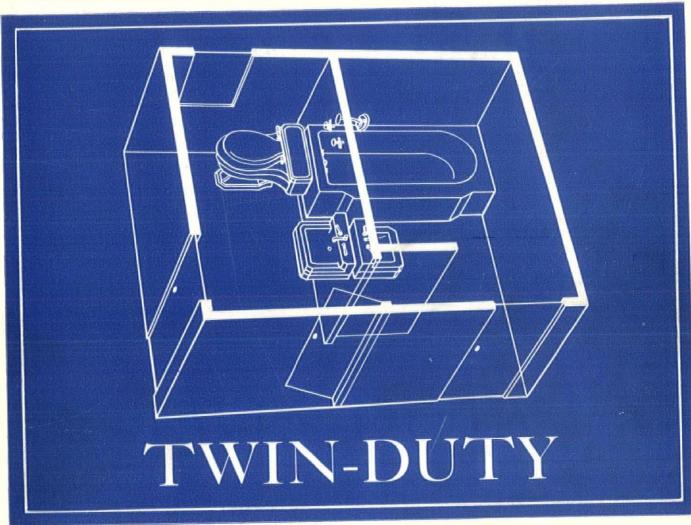
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